CLEAN VERSION OF PENDING CLAIMS

- 1. Polypeptides having antifreeze activity which can be obtained from carrots and which have an apparent molecular weight on SDS-PAGE of 36 kDa and isoforms or derivatives thereof which still possess antifreeze activity.
- 2. (amended) Polypeptides having antifreeze activity comprising one or more fragments (A-E) of the amino acid sequence as follows:
 - SEQ ID NOS. 1-5, respectively, in order of appearance
 - (K) LEU-PRO-ASN-LEU-PHE-GLY-LYS
 - (L) ILE-PRO-GLU-GLU-ILE-SER-ALA-LEU-LYS
 - (M) LEU-THR-ASP-LEU-SER-PHE-ASN-LYS
 - (N) SER-LEU-ARG-LEU-SER-SER-THR-SER-LEU-SER-GLY-PRO-VAL-PRO-LEU-PHE-PHE-PRO-GLN-LEU-X-LYS
 - (O) X-X-GLY-VAL-ILE-PRO-X-GLN-LEU-SER-THR-LEU-PRO-ASN-LEU-LYS
 - and isoforms or derivatives thereof which still possess antifreeze activity.
- 3. Polypeptides having antifreeze activity comprising the fragments (A-E) of claim 2.
- (amended) Polypeptides having antifreeze activity having an amino acid sequence as represented in SEQ ID NO. 7 and isoforms and derivatives thereof which still possess antifreeze activity.

- 5. (amended) An isolated nucleic acid sequence encoding the antifreeze polypeptide of claim 2 and alleles thereof encoding polypeptides which still possess antifreeze activity.
- 6. (amended) An isolated nucleic acid sequence corresponding to gene SEQ ID NO. 6 and alleles thereof encoding polypeptides which still possess antifreeze activity.
- 7. (amended) Method of obtaining polypeptides according to claim 2 whereby the polypeptide is isolated from cold-acclimatised carrots.
- 8. (amended) Method of obtaining polypeptides according to claim 2, whereby the polypeptide is expressed by a genetically modified organism.
- 9. Method according to claim 8, whereby the organism is a micro-organism, a plant or a cell culture.
- 10. (amended) An antibody capable of specifically binding the polypeptide of claim 2.
- 11. (amended) A polypeptide which has antifreeze activity that is immunologically related to the polypeptide of claim2 as determined by its cross reactivity with an antibody of claim 10.
- 12. (amended) Food product comprising a polypeptide of claim 2 with the proviso that the food product is not a carrot.
- 13. Food product of claim 12 being a frozen confectionery product or a frozen vegetable.
- 14. (amended) Method of producing a food product comprising an antifreeze polypeptide according to claim 2, comprising the steps of
 - (a) adding to the food product a composition comprising said antifreeze polypeptide; or
 - (b) in situ production of said antifreeze polypeptide.

- 15. (amended) Use of the polypeptide of claim 2 for increasing the frost tolerance of plants.
- 16. Micro-organisms, cell line or plant capable of expressing the polypeptide of claim 2, with the proviso that the plant is not an unmodified carrot plant.